| Mr. Michael T. Davis<br>Pre-Calculus | Unit 2.8 Practice Quiz<br>February 3, 2017 |
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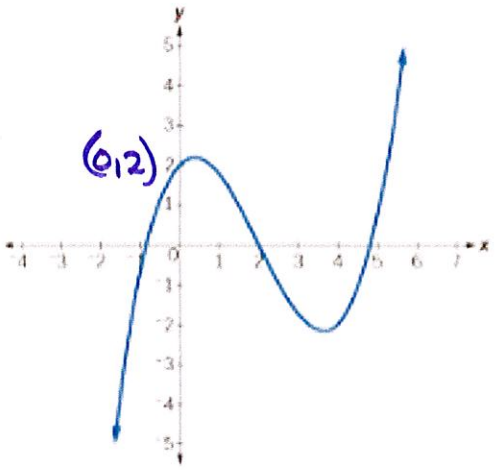
Name: Solutions

**Directions: Write an equation for each polynomial function shown below**

1.




Assume the x-intercepts are $x=-1$, $x=2$, $x=5$

$y = a(x+1)(x-2)(x-5)$

$2 = a(0+1)(0-2)(0-5)$

$2 = a(1)(-2)(-5)$

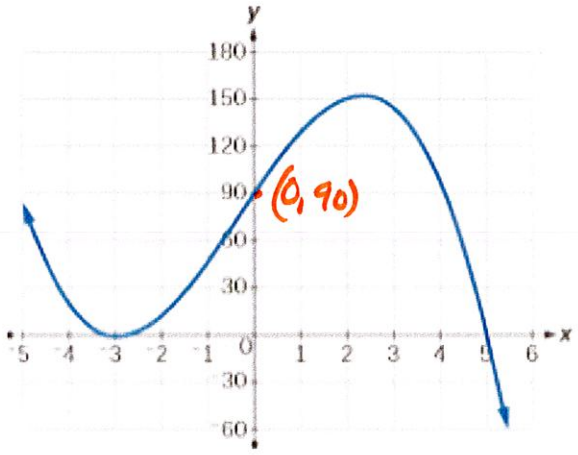
$2 = a(10)$

$\frac{2}{10} = a$

$\frac{1}{5} = a$

$y = \frac{1}{5}(x+1)(x-2)(x-5)$

2.




$y = a(x+3)^2(x-5)$

$90 = a(0+3)^2(0-5)$

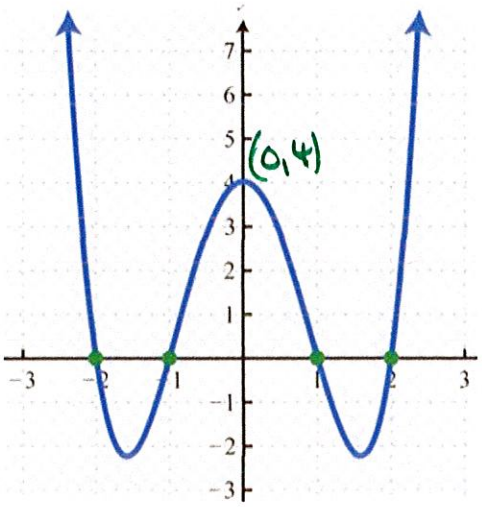
$90 = a(9)(-5)$

$90 = a(-45)$

$-2 = a$

$y = -2(x+3)^2(x-5)$

3.




$y = a(x+2)(x+1)(x-1)(x-2)$

$4 = a(0+2)(0+1)(0-1)(x-2)$

$4 = a(2)(1)(-1)(-2)$

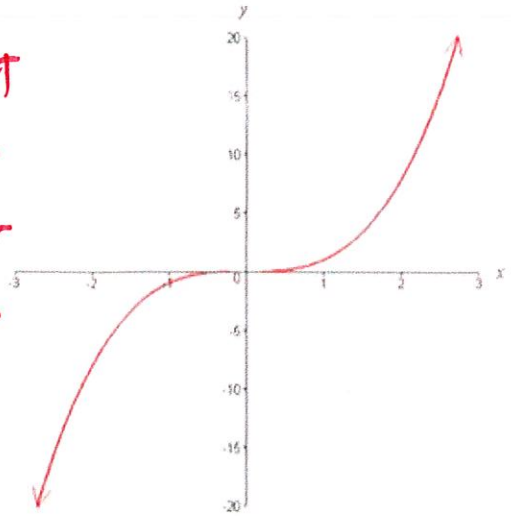
$4 = a(4)$

$\frac{4}{4} = a$

$1 = a$

$y = (x+2)(x+1)(x-1)(x-2)$

4.



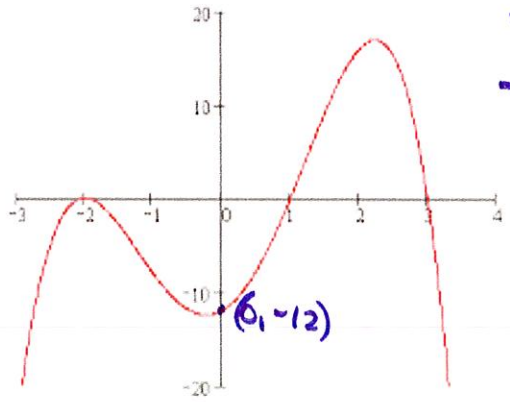
We do not know an additional point other than the x-intercepts

$y = a(x-0)^3$

$y = ax^3$

We do not know the value of "a"

5.




$y = a(x+2)^2(x-1)(x-3)$

$-12 = a(0+2)^2(0-1)(0-3)$

$-12 = a(2)^2(-1)(-3)$

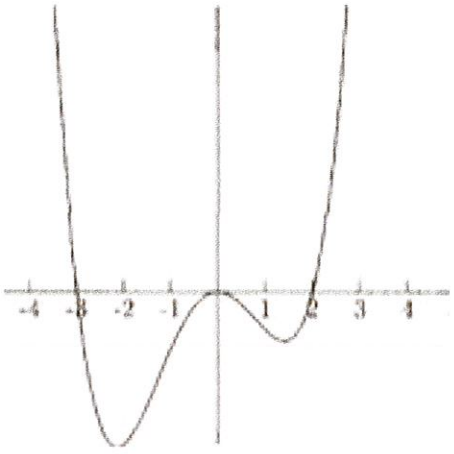
$-12 = 12a$

$\frac{-12}{12} = a$

$-1 = a$

$y = -(x+2)^2(x-1)(x-3)$

6.



We do not know an additional point other than the x-intercepts

$y = a(x+3)(x-0)^2(x-2)$

$y = a(x^2)(x+3)(x-2)$

$y = ax^2(x+3)(x-2)$

We do not know the value of "a"